

DESCRIPTIONS OF NEW NORTH AMERICAN
MICROLEPIDOPTERA.

BY AUGUST BUSCK.

Duvita, new genus.

Labial palpi long recurved; second joint thickened with smoothly applied scales, abruptly cut off at apex; terminal joint about as long as second joint, somewhat thickened with scales, smooth, acute. Antennae $\frac{3}{4}$, simple, basal joint without peeten. Forewings elongate ovate, apex bluntly pointed; 12 veins; 7 and 8 stalked to costa; rest separate; 2, 3, 4, and 5 equidistant, nearly parallel; 1b furcate at base. Hindwings nearly as broad as the forewings, trapezoidal, apex somewhat produced, termen slightly sinuated below apex; tornus rounded; 8 veins; 6 and 7 stalked; 3 and 4 connate; 5 parallel to 4; lower part of cell below the fold open.

Type; *Duvita vitella* Busck.

This genus is allied to *Aproaerema* Durrant, differing mainly in the shorter palpi with the sharply cut off second joint and the thickened terminal joint. *Aproaerema* also has the apex of the hindwings much more produced and termen emarginate. *Nigratomella* Chambers and *concinusella* Chambers, hitherto placed in *Aproaerema* are referable to *Duvita*.

Conclusella Walker, hitherto placed in *Gelechia*, is also better placed in this genus, though it does not have veins 6 and 7 of hindwings as long stalked as the type of the genus.

Duvita vittella, new species.

Second joint of labial palpi blackish brown exteriorly, light ochreous fuscous on the inner side, with the edge of the abruptly cut off apex white; terminal joint whitish with a broad black annulation before the apex. Face whitish. Head and thorax whitish fuscous. Forewings light deer-brown with white markings strongly mottled with steelgray; basal half of costal edge dark brown; a broad ring of mottled white touching the base of the wing and the costal and dorsal margin encloses a spot of the ground color; from the middle of the costa runs an outwardly oblique white mottled fascia across the wing; this fascia is sharply defined toward the base of the wing, but is somewhat diffused exteriorly; from apical third of costa runs a parallel thin line of mottled white to tornus; a broad area of the same color along the terminal edge and including apex contains a conspicuous small deep black dash on the middle of termen; a thin black white-edged inmarginal line at base of the steelgray white tipped cilia. Hindwings dark fuscous. Abdomen blackish fuscous above with lighter underside. Legs blackish brown with narrow white annulations on the tarsal joints. Alar expanse: 10-11 mm.

Habitat: Long Island, N. Y., Heinrick, coll.; Chevy Chase, Md. Hopkins, coll.; Piney Point, Md. Pergande, coll.

Type: Cat. No. 20206 U. S. N. M.

Bred by Mr. Heinrick from stunted cones of Scotch and Austrian pine; by Mr. Pergande from cecid gall on *Pinus taeda*.

A pretty species, very similar in color and pattern to the well-known pine-needle miner *Paralechia pinifoliella* Chambers, but larger and without scale tufts and at once recognized by the black tornal dash.

Gnorimoschema chenopodiella, new species.

Second joint of labial palpi and brush exteriorly mottled with dark fuscous on ochreous ground color; inner side light ochreous; terminal joint dark fuscous with a faint broad ochreous annulation in the middle. Face light iridescent fuscous. Head and thorax dark fuscous. Forewings dark fuscous, faintly mottled with white, black and brown scales, the last most prominent on apical half of the wing and tending to form indistinct longitudinal brown lines; black scales form small illdefined spots on the cell and more prominently on costal edge just before apex; cilia ochreous fuscous. Hindwings light fuscous with light ochreous fuscous cilia. Abdomen fuscous with light ochreous underside. Legs dark fuscous with narrow ochreous annulation at the joints. Alar expanse: 12-14 mm.

Habitat: Springfield, Mass.

Type: Cat. No. 20203, U. S. N. M.

Bred by Mr. H. E. Smith from pigweed.

A small inconspicuous species closely allied to *G. artemisiella* Kearfott and *lavernella* Chambers, but darker in color and less conspicuously mottled.

Gelechia puertella, new species.

Labial palpi long slender with small divided brush on second joint; light ochreous dusted with black. Head light ochreous; face with large central horny pointed prominence. Thorax light ochreous; base of patachia black. Forewings light ochreous, costa more or less dusted with black and with a black spot just beyond the middle; from this spot runs an indistinct darker ochreous shade across the wings, which at the end of the cell contains a small round black spot; on the middle of the cell is a larger black spot more or less connected with a similar spot on the fold below, which reaches to the dorsal edge; around the apical and terminal edges is a series of illdefined black spots. In some specimens the entire wing is more or less dusted with black scales; cilia light ochreous. Hindwings light fuscous with ochreous fuscous cilia. Abdomen light ochreous. Legs light ochreous with black annulations. Alar expanse: 18-20 mm.

Habitat: La Puerta, Cal.

Type: Cat. No. 20062, U. S. N. M.

An easily distinguished species of the group *barnesiellae* Busck and like this species with the horny prominence on the face, which presumably indicates that the species are internal feeders. Other closely allied species, *G. variabilis* Busck and *texanella* Chambers, do not possess this structure. The venation approaches that of *Gnorimoschema* with 6 and 7 of hindwings nearly parallel.

Gelechia paralogella, new species.

Second joint of labial palpi light ochreous above, with large, deep black, divided brush; terminal joint black with ochreous apex. Antennae black. Face pearly white, iridescent. Head and thorax black. Forewings blackish brown, nearly black; from the base below costa runs a short deep black line dotted with single bright ochreous scales; an indistinct longitudinal row of black dots from the middle to beyond the end of the cell, each black dot edged exteriorly with a few light ochreous scales; a few similarly edged black dots on the fold. Cilia dark brown, dusted with white atoms. Hindwings light fuscous. Abdomen blackish brown. Legs black with ochreous annulations. Alar expanse: 17 mm.

Habitat: San Diego, Cal., W. S. Wright, collector.

Type: Cat. No. 20070, U. S. N. M.

Nearest to the eastern *Gelechia trialbamaculella* Chambers.

Gelechia diversella, new species.

Labial palpi long slender with short furrowed tuft on second joint; whitish fuscous mottled with black. Face and head light ochreous fuscous. Thorax darker fuscous. Forewings narrow, pointed; the whitish ground color is closely overlaid with reddish fuscous scales, which denote the general color of the insect; a large illdefined reddish brown spot on the cell; a similar spot at the end of the cell, above and below which is a black costal and dorsal spot; a small black streak on the fold; a series of illdefined black spots around the apical and terminal margin. Cilia light ochreous. Hindwings light fuscous with ochreous cilia. Abdomen ochreous fuscous. Legs with broad black annulations. Alar expanse: 15-17 mm.

Habitat: San Diego, Cal., W. S. Wright, collector.

Type: Cat. No. 20069, U. S. N. M.

Closely allied to *Gelechia puertella* Busck and *barnesiella* Busck, but smaller and without the facial horny prominence found in these species.

Gelechia notandella, new species.

Second joint of labial palpi with large divided brush, which becomes gradually shorter towards apex; white strongly mottled with black and brown scales; terminal joint white with black apex. Face light fuscous, iridescent white in center. Head and thorax light fuscous. Forewings dark fuscous, longitudinally streaked with whitish fuscous, except on

extreme tip of the wing which is uncolored, dark fuscous; just beyond the middle of the cell is a black spot and at the end of the cell is a similar spot, both are slightly edged with white scales so as to be indistinct ocellate; around the apical edge is a series of illdefined black dots. Cilia fuscous mixed with white. Hindwings dark fuscous with lighter ochreous fuscous cilia. Abdomen dark fuscous with two longitudinal black streaks on the under side. Legs blackish fuscous with narrow ochreous annulations at the end of the joints. Alar expanse: 24 mm.

Habitat: San Diego, Cal., W. S. Wright, collector.

Type: Cat. No. 20071, U. S. N. M.

A striking species allied to *Gelechia biannulella* Chambers, but larger and at once distinguished by the different labial brush.

Batrachedra mathesoni, new species.

Labial palpi yellowish with four conspicuous broad black bars on the outer side, two on second joint and two on third; inner side yellowish strongly mottled and suffused with black, especially on the third joint; extreme tip light, second joint nearly smooth with but slightly projecting scales at apex. Face light ochreous. Head light ochreous on the sides with a broad violaceous black central longitudinal streak, which is continued on thorax, which also has the sides and patagia ochreous. Antennae light ochreous with narrow black annulations, and with two or three broad black annulations before the tip. Forewings light ochreous dusted with violaceous black especially below the fold; on the fold below the middle of the cell an elongate conspicuous black spot. Cilia yellowish fuscous. Hindwings linear dark fuscous with yellowish fuscous cilia. Abdomen dark fuscous above with yellowish underside; male genitalia yellowish; female with a short protruding horny, hairy ovipositor. Legs light ochreous, mottled with black exteriorly. Venation typical, 7 and 8 stalked, 7 to termen (These are the veins designated as 6 and 7 by Meyrick) Alar expanse: 10-15 mm.

Habitat: Cocoanut Grove, Fla.

Type: Cat. No. 20336, U. S. N. M.

Bred in long series from blossoms of *Cocos nucifera* received from Mr. H. M. Matheson, Cocoanut Grove, Fla.

The species appears to be the primary cause of considerable damage to the flower clusters and to seriously influence the crop of nuts.

The full grown larva is 8 mm. long; head and thoracic shield dark brown, nearly black; anal plate light brown; body whitish with faint and ill-defined purple, longitudinal lines. It spins a flimsy, white, oval, flattened cocoon; pupa light brown; pupa stage lasts from 5 to 7 days; imago issuing during latter part of May.

Olethreutes piceae, new species.

Labial palpi dusky white on the inner side, dark fuscous exteriorly. Face whitish fuscous. Head and thorax dark fuscous. Forewings blackish fuscous with a greenish tint and white transverse markings as follows: near base is a small diffused whitish area not clearly defined from the groundcolor; on the costal edge a five geminate white dashes, the first of which at basal third is continued into an undulating transverse fascia the next two dashes on and beyond the middle of costa are united by a similar white transverse undulating fascia, which forks just below costa. The outermost geminate dash is continued into an irregular and sometimes broken undulating fascia just within terminal edge, and this fascia has in some specimens the tendency to fork near the costa, the fork running to the penultimate geminate costal dash. Cilia fuscous with a black basal line along the edge of the wing, followed by a diffused white basal line.

Hindwings dark fuscous. Cilia fuscous with white tips and a white basal line. Abdomen dark fuscous with lighter underside and anal tuft. Legs blackish fuscous with narrow yellowish bars and tarsal annulations. Alar expanse: 13-16 mm.

Habitat: Colorado Springs, Colorado.

Type: Cat. No. 20337, U. S. N. M.

Bred during May and July in the Forest Insect Division from *Picea parviana* and *Picea engelmanni*, collected by Messrs. J. H. Pollock and B. T. Harvey.

The species is allied to *O. fuscobiana* Zeller and *O. campestrana* Zeller, but easily differentiated by the wing pattern.

Laspeyresia populana, new species.

Face and labial palpi light ochreous. Head ochreous with dark brown side tufts. Thorax blackish with posterior tip and the tips of patagia light ochreous. Forewings blackish brown with light ochreous markings; basal patch dark brown, sharply angulated outwardly and strongly mottled with ochreous on the dorsal edge; three large and three smaller ochreous geminate dashes occupy most of the costal edge; a large ochreous spot on the middle of dorsum; ocellus indicated merely by a broad transverse bluish metallic streak before and after its normal place; a deep black marginal line around apex and termen is broken below apex by two short ochreous dashes and at tornus by two broad ochreous dashes; apical part of the wing finely irrorated with ochreous scales; cilia coppery brown. Hindwings light fuscous with whitish cilia. Abdomen dark fuscous with light ochreous underside. Legs light ochreous shaded externally with dark fuscous. Alar expanse: 13-14 mm.

Habitat: Missoula, Mont.

Foodplant: *Populus trichocarpa*.

Type: Cat. No. 20338, U. S. N. M.

Reared by Mr. J. Brunner.

Allied to *L. gallae-saliciana* Riley, from which it is at once distinguished by the dark basal patch of the forewings.

Laspeyresia leucobasis, new species.

Labial palpi and face light ochreous gray. Head and thorax darker gray. Forewings with basal patch gray concolorous with thorax, outwardly angulated on the middle and edged by a broad transverse outwardly angulated ochreous white fascia, which is but slightly mottled with gray on the costal and dorsal edges; outer half of the wing dark brown with four pairs of short whitish ochreous costal streaks and two short whitish ochreous terminal streaks, one below the apex and the other above tornus; irregular interrupted transverse bluish metallic lines form an illdefined ocellus, which contains faint short black lines; on the fold adjoining the light transverse fascia is a large deep black illdefined spot and on the end of the cell is a round black spot. Cilia coppery brown. Hindwings blackish brown. Abdomen dark brown. Legs light ochreous brown with dark brown tarsal annulations. Alar expanse: 12-13 mm.

Habitat: Evaro and Missoula, Mont.

Foodplant: *Larix occidentalis* and *Picea engelmanni*.

Type: Cat. No. 20339, U. S. N. M.

Bred by Mr. J. Brunner from the former tree and by Mr. B. T. Harvey from *Picea*.

A very distinct species nearest to *L. tana* Kearfott, but differing in the light basal part and the much darker apical half; *L. tana* is also at once distinguished by the whitish cilia of the hindwings. *Laspeyresia fletcherana* is also closely allied, but is a lighter species, with the basal light part of the forewings much less sharply defined from the darker apical part of the wing.

Laspeyresia laricana, new species.

Labial palpi blackish fuscous. Face, head and thorax blackish fuscous. Forewings blackish fuscous with white and silvery transverse pattern and indistinctly dusted with light yellow scales; five white, geminate costal dashes; the first just before the middle, the second just beyond the middle and the three outer ones on apical third of costa; from the first of these geminate dashes runs an outwardly angulated, white, double fascia to the middle of dorsum, containing a narrow black central line and some metallic scales on the middle of the wing; from the second geminate spot runs a similar fascia, which, however, does not reach dorsum, but forms the inner edge of the ocellus; the lower part of this fascia is strongly overlaid with metallic scales; from the penultimate costal dash runs a broken irregular, metallic white transverse line along the outer side of the ocellus; this latter contains three parallel, longitudinal black lines; cilia dark bronzy with a black basal, marginal line. Hindwings and abdomen blackish fuscous. Alar expanse: 14-17 mm.

Habitat: Evaro, Mont.

Type: Cat. No. 20340, U. S. N. M.

Bred by Mr. Brunner from *Larix occidentalis*.

Argyresthia eugeniella, new species.

Labial palpi and face golden. Head white. Antennæ dusky without darker annulation. Thorax white; patagia dark golden brown. Forewing dark golden brown with a violet sheen and with darker brown transverse reticulation; the dorsal part below the fold is white, slightly mottled with dark brown and with a large illdefined brown spot on the edge just beyond the middle; cilia dark brown at apex; whitish outside the white dorsal area. Hindwings light silvery fuscous with ochreous fuscous cilia. Abdomen dark fuscous with white underside. Legs golden with indistinct dark brown annulations at the joints. Venation typical: Veins 7 and 8 in the forewings stalked. Alar expanse: 7-8 mm.

Habitat: Key West, Fla.

Foodplant: *Eugenia buxifolia*.

Type: Cat. No. 20209, U. S. N. M.

Collected and bred by Mr. E. A. Schwarz in March 1912. The smallest described American species of the genus, very close to *A. deletella* Zeller, but smaller and darker in color. The white cocoon is double with an open network outer layer and a tough closely woven inner cocoon.

Argyresthia arceuthobiella, new species.

Labial palpi golden. Face silvery white. Antennæ golden with sharp black annulations. Tuft on head and thorax white; patagia golden yellow. Forewings golden yellow with a narrow leadcolored costal edge; a narrow longitudinal central white streak and a narrow white dorsal edge; apical third of wing overlaid with leadcolored scales; cilia golden with silvery costal and dorsal tufts; extreme apex black, edged on both sides with white scales. Hindwings light silvery fuscous. Abdomen white. Legs white with dusky, faintly annulated tarsi. Alar expanse: 7 mm.

Habitat: Mistletoe, Oregon.

Foodplant: *Libocedrus decurrens*.

Type: Cat. No. 20208, U. S. N. M.

A very striking little species, reminding of the larger *Zelleria haimbachi* Busck in color and pattern. Venation typical: Forewings with veins 7 and 8 stalked.

Argyresthia libocedrella, new species.

Labial palpi, face and head light lemon yellow. Antennæ silvery white with blackish brown annulations and with basal joint golden. Thorax and forewings dark golden yellow with two conspicuous dark brown dorsal spots, one on the middle of the dorsal edge and one at the basal fourth;

faint traces of slightly darker lines crossing the wing from these dorsal spots can with difficulty be discerned in certain lights. Cilia dark golden yellow. Hindwings light fuscous with ochreous fuscous cilia. Abdomen dark fuscous above golden yellow on the underside. Legs golden yellow. Venation typical: Forewings with 7 and 8 stalked. Alar expanse: 13-14 mm.

Habitat: Ashland, Ore., P. D. Serpent, collector.

Type: Cat. No. 20114, U. S. N. M.

Bred from Incense Cedar, *Libocedrus decurrens*.

Nearest to the Eastern *A. alternatella* Kearfott, but larger and deeper in color and without the conspicuous mottling of that species.

Argyresthia furcatella, new species.

Palpi, face, head and thorax white. Forewings white, sprinkled with dark brown transverse reticulations especially toward the apex; from the middle of the dorsum runs an illdefined outwardly oblique, dark brown fascia to beyond the end of the cell, but does not quite attain costa; on the fold between this and the base is a small round dark brown spot; a series of dark brown marginal spots begin on the middle of costa and reach round to tornus. Veins 7 and 8 stalked. Cilia dark ochreous fuscous. Hindwings ochreous fuscous. Abdomen silvery fuscous. Legs white with dark brown annulations at the tip of all the joints. Venation typical. Alar expanse: 12-13 mm.

Habitat: Cheyenne Canon, Colo.

Type: Cat. No. 20207, U. S. N. M.

Bred by Mr. A. B. Champlain from cynipid gall on Oak.

Nearest to *Argyresthia pedmontella* Chambers and *rileiella* Busck, differing in details of ornamentation, especially by the presence of the round dark spot on the fold, and by having veins 7 and 8 in the forewings stalked.

**ON THE TAXONOMIC VALUE OF SOME LARVAL CHARACTERS
IN THE LEPIDOPTERA.¹**

BY CARL HEINRICH, *Specialist in Forest Lepidoptera*.

It is not proposed in this paper to enter upon a discussion of all the characters that have been used to distinguish larvae, but merely to consider certain head characters which are particularly valuable for defining generic limits and determining immediate family relationships within the so-called Microlepidoptera.

¹ Contribution from the Division of Forest Insects, Bureau of Entomology.